

Transportation Systems Technician (TST)

Exam Reference Materials for 2009

Effective September 24, 2008

This is the official list of reference materials used to create the 2009 Transportation Systems Technician (TST) promotional exam. This information is provided prior to the exam to allow employees the opportunity to study and prepare for the exam. The majority of these references are provided during the exam; items 6 and 7 below are not provided during the exam. References are available through your regional organization and on the internet using the links below. Item 4c below is available on the WSDOT intranet. Items **highlighted in red** are either new or updated from the 2008 exam cycle.

Exam topic categories with references for study:

1. National Electric Code (NEC)

- a. NEC 2005 Edition (NFPA 70). **(Available in each region)**

2. Manual on Uniform Traffic Control Devices (MUTCD),

- a. MUTCD Parts 4 & 8, 2003 Edition
<http://mutcd.fhwa.dot.gov/HTM/2003r1/part4/part4-toc.htm>
<http://mutcd.fhwa.dot.gov/HTM/2003r1/part8/part8-toc.htm>

3. Electrical WAC/ RCW

- a. WAC 296-46B (Electrical Safety Standards, Admin, and Installation), Effective Dec 31, 2006.
<http://www.lni.wa.gov/TradesLicensing/Rules/files/electrical/500-039-222.pdf>
- b. RCW 19.28 (Electrical Laws), Effective June 6, 2006
<http://www.lni.wa.gov/TradesLicensing/Rules/files/electrical/500-039-111.pdf>

4. Standard Plans, Specifications, and Contract Plans

- a. Standard Plans (M 21-01), J-Drawings (**J-1f thru J-28.70-00**), **September 2008**. (See List Below)
<http://www.wsdot.wa.gov/Design/Standards/Plans.htm#SectionJ>
- b. Standard Specifications (M 41-10) **2008** Edition, Parts 8.20 and 9.29,
<http://www.wsdot.wa.gov/publications/manuals/fulltext/M41-10/SS2008.pdf>
- c. Contract Plans
<http://www.wsdot.wa.gov/HR/sd/TranspSysTechs/Contract%20Plans.pdf>

5. Safety (First Aid, Electrical, General, Work zone, Digging)

- a. **Red Cross & American Heart Association First Aid and CPR Guidelines:**
First Aid Guidelines: http://www.redcross.org/static/file_cont4913_lang0_1727.pdf
CPR Guidelines: http://www.redcross.org/static/file_cont4979_lang0_1757.pdf
- b. General Safety and Health Standards, WAC 296-24, Part L Electrical, 1/24/07
<http://apps.leg.wa.gov/WAC/default.aspx?cite=296-24>
- c. WSDOT Safety Procedures and Guidelines Manual, M75-01.11, **Sept 2008**, Ch. 1, 3, 5, 6, and 9.
<http://www.wsdot.wa.gov/publications/manuals/fulltext/M75-01/Safety.pdf>
- d. Work Zone Traffic Control Guidelines (M 54-44.01), **May 2008** Revision
<http://www.wsdot.wa.gov/publications/manuals/fulltext/M54-44/Workzone.pdf>
- e. Washington Utilities Coordinating Council (WUCC) Digging Guidelines
<http://www.wucc.org/>

6. Electrical and Electronic Theory and Calculations

- a. LabVolt Electricity and Electronic Training System **(Available in region/ Not provided during exam)**

7. Equipment (Operation, Maintenance, Troubleshooting, Repair, Test Equipment). **[Equipment references are available in each region, and not provided during exam]**

- a. TST B and C level equipment related questions are specific to each TST discipline i.e. (Electronics, Electrical, Bridges, Tunnels, Facilities, TDO, or Electrical Inspector).
- b. TST D level equipment questions are derived from all disciplines.

Transportation Systems Technician (TST)

Exam Reference Materials for 2009

Effective September 24, 2008

Section J Roadside and Site Development

view dnld	J-1f	Timber Light Standards	6/23/00	
view dnld	J-3	Type A, B, and C Service Lighting Details	8/1/97	2 sheets
view dnld	J-3b	Service Cabinet Type B Modified (0 - 200 Amp Type, 120/240 Single Phase)	3/4/05	2 sheets
view dnld	J-3c	Service Cabinet Type D (0 - 200 Amp Type, 120/240 Single Phase)	6/24/02	
view dnld	J-3d	Service Cabinet Type E (0 - 200 Amp Type, 240/480 Single Phase)	11/5/03	
view dnld	J-5	Pedestrian Pushbutton Details	8/1/97	
view dnld	J-6c	Cabinet Foundation Details	4/24/98	
view dnld	J-6f	Signal Head Mounting Details Pole and Post Top Mountings	4/24/98	
view dnld	J-6g	Signal Head Mounting Details Mast Arm and Span Wire Mountings	12/12/02	
view dnld	J-6h	Miscellaneous Signal Details	4/24/98	
view dnld	J-7a	Signal Standard Type Designations and Types PPB, PS, I, RM, and FB Details	9/12/01	2 sheets
view dnld	J-7c	Strain Pole Standards Type IV and V	6/19/98	
view dnld	J-7d	Span Wire Installation	4/24/98	
view dnld	J-8a	Type 1 Induction Loop	5/20/04	
view dnld	J-8b	Type 2 Induction Loop	5/20/04	2 sheets
view dnld	J-8c	Type 3 Induction Loop	5/20/04	3 sheets
view dnld	J-8d	Induction Loop Details	5/20/04	2 sheets
view dnld	J-9a	Typical Grounding Details	4/24/98	
view dnld	J-10	Electrical Conduit Placement	7/18/97	
view dnld	J-11a	Standard Junction Box, Types 1 & 2	10/12/07	
view dnld	J-11b	Heavy Duty Junction Box, Types 4, 5, & 6	9/2/05	2 sheets
view dnld	J-11c	Standard Duty Junction Box, Types 7 & 8	6/21/06	2 sheets
view dnld	J-12	Sign Post-Mounted Junction Box	11/8/05	2 sheets
view dnld	J-15a	Pull Box	10/4/05	2 sheets
view dnld	J-15b	Cable Vault	10/4/05	2 sheets
view dnld	J-16a	Junction Box, Traffic Barrier Mounted	3/4/05	

Transportation Systems Technician (TST)

Exam Reference Materials for 2009

Effective September 24, 2008

view dnld	J-16b	Conduit Installation in Retaining Wall Traffic Barrier	9/20/07	
view dnld	J-16c	Conduit Installation in Single Slope Concrete Barrier	9/20/07	
view dnld	J-18	Permanent Traffic Recorder Site Installations	9/2/05	2 sheets
view dnld	J-19	Weigh-In-Motion Site Installation	9/2/05	
view dnld	J-20	Permanent Traffic Recorder and Weigh-In-Motion Details	9/2/05	3 sheets
view dnld	J-28.10-00	Steel Light Standards	8/7/07	2 sheets
view dnld	J-28.22-00	Steel Light Standards Placement (Slip Base)	8/7/07	2 sheets
view dnld	J-28.24-00	Steel Light Standards Placement (Fixed Base)	8/7/07	
view dnld	J-28.26-00	Steel Light Standards Placement (Miscellaneous)	8/7/07	
view dnld	J-28.30-00	Steel Light Standards Foundation Types A & B	8/7/07	2 sheets
view dnld	J-28.40-00	Steel Light Standards Base Mounting	8/7/07	
view dnld	J-28.42-00	Steel Light Standard Anchor/Slip Plate for Slip Base	8/7/07	
view dnld	J-28.45-00	Steel Light Standard Elbow Mounting on Bridge & Retaining Wall	8/7/07	
view dnld	J-28.50-00	Steel Light Standard Pole Base and Hand Hole Details	8/7/07	
view dnld	J-28.60-00	Steel Light Standard Barrier Mounted Base	8/7/07	
view dnld	J-28.70-00	Steel Light Standard Wiring Details	8/7/07	